

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application;

Claim 1. (Currently Amended) A radio transmission method in which a plurality of transmission apparatuses form a network to transmit information, comprising the steps of:

prescribing a predetermined frame period;

providing a management information transmitting field in said frame period;

providing a station sync transmit/receive interval and a down-link control interval in said management information transmitting field; and

designating a communicating station to transmit a station synchronizing signal at a plurality of frame period intervals during said station sync transmit/receive interval, wherein

a virtual frame period, formed of a plurality of contiguous frame periods in which said station synchronizing signal is transmitted, is updated depending on a number of communicating stations forming said network, and

down-link control information including said updated virtual frame period is transmitted using said down-link control interval.

Claim 2. (Currently Amended) The radio transmission method according to claim 1, wherein for ~~selection of~~ designating said communicating station to transmit during said station sync transmit/receive interval, said down-link control information is provided within said management information transmitting field and a control station designates said communicating station for transmitting information in said frame period based on said down-link control information.

Claim 3. (Canceled)

Claim 4. (Currently Amended) The radio transmission method according to claim 1, wherein for ~~selection of~~ designating said communicating station that transmits in said frame period during said station sync transmit/receive interval, said down-link control information is provided within said management information transmitting field and information regarding a period for transmitting said station synchronizing signal and a group of communicating stations for transmitting said station synchronizing signal are specified.

Claim 5. (Currently Amended) A radio transmission apparatus that serves as a control station of a network when a plurality of transmission apparatuses form said network to transmit information among a plurality of communicating stations,

said radio transmission apparatus comprising:

communication processing means for transmitting and receiving a radio signal;

station synchronizing setting means for transmitting a synchronizing signal that determines a frame period using said communication processing means, for designating a management information transmitting field within said frame period and setting a station sync transmit/receive interval during which said communicating stations forming said network transmit and receive information within said management information transmitting field; ~~and~~

down-link control information transmitting means for transmitting down-link control information in a down-link control interval for notifying a specific communicating station ~~which transmits~~ transmitting during said station sync transmit/receive interval; and

virtual frame period setting means for setting and updating a virtual frame period, formed of a plurality of contiguous frame periods in which said synchronizing signal is transmitted, depending on a number of communicating stations forming said network, and for including said updated virtual frame period in said down-link control information for transmission using said down-link control interval.

Claim 6. (Currently Amended) A radio transmission

apparatus for communicating information among a plurality of communicating stations in a network formed by a plurality of transmission apparatuses, said radio transmission apparatus comprising:

communication processing means for transmitting and receiving a radio signal;

frame period determining means for receiving a synchronizing signal determining a frame period using said communication processing means and determining said frame period, and for setting a virtual frame period, formed of a plurality of contiguous frame periods, according to down-link control information received by said communication processing means;

management field specifying means for specifying a management information transmitting field within said frame period;

down-link management information receiving means for designating one communicating station of said plurality of communicating stations from which information is transmitted at a designated position within said management information transmitting field; and

transmitting and receiving means for transmitting and receiving information based on said designation of said down-link management information.